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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/628,748  | 07/28/2003  | Young-Kai Chen       | LU05003USU          | 4860             |
| 34408   | 7590        | 03/09/2006           | EXAMINER            |                  |
| THE ECLIPSE GROUP<br>10605 BALBOA BLVD., SUITE 300<br>GRANADA HILLS, CA 91344 |             |                      |                     | RAO, SHRINIVAS H |
|   |             | ART UNIT             |                     | PAPER NUMBER     |
|   |             | 2814                 |                     |                  |

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|------------------------------|------------------------|---------------------|--|
|                              | 10/628,748             | CHEN ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Steven H. Rao          | 2814                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 01 December 2005.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1,3,6,7,9-13,15 and 18-22 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1,3,6,7,9-13,15 and 18-22 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 28 July 2003 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.

***Response to Amendment***

Applicants' amendment filed on December 01, 2005 along with the RCE request has entered and forwarded to the Examiner on December 13, 2005.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 01, 2005 has been entered.

***Preliminary Amendment***

Applicants' amendment filed on December 01, 2005 has been entered on December 13, 2005.

Therefore claims 1,8 and 14 as amended by the amendment and claims 3, 6,7,9-13 ,15 and 18-22 as previously recited are currently pending in the Application.

Claims 2, 4-5, and 16-17 are cancelled.

***Information Disclosure Statement***

No further IDS have been filed after the one filed on December 16, 2004 ( which was initially filed on October 30, 2003 and considered and the initialed PT0-1449 enclosed with the O/A mailed on December 16, 2004).

***Claim Rejections - 35 USC Section 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3,6-13,15 and 18-22 are rejected over Miles et al. U.S. Patent No. 6,384,463 ( herein after Miles) and Keri U.S. Patent No. 5,861,656 ( herein after Keri) both previously applied . ( for response to Applicants' arguments see section below).

With respect to claim 1 Miles describes a microelectronic apparatus having protection against high frequency electro magnetic radiation, comprising a planar insulating substrate Miles col.1 lines 33-35 and col. 2 lines 60-63, planar and insulating as defined in specification page 8 lines 5 to 14) ; an active semiconductor electronic device located over a first region of said insulating substrate ( Miles fig. 1 #2 or 4, col. 2 lines 30-35) a doped semiconductor absorber located in a second region of said insulating substrate ( miles figure 4 #22)

Miles does not describe the doped semiconductor as substantially surrounding substantially surrounding said first region .

However Keri , a patent from the same filed of endeavor describes in figure 3 and col. 2 lines 38 to 49 the dopes semiconductor as substantially surrounding the insulating substrate to avoid rather complicated and extra circuit area and/or processing steps in connection with manufacture but rather provide a simple manner with reduced number of steps so as to protect devices in high voltage integrated circuits.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Keri's ( 49) the doped semiconductor as substantially surrounding the insualting substrate in place of Miles unspecified doped semiconductor. The motivation to make the above substitution is to avoid rather complicated and extra circuit area and /or processing steps in connection with manufacture but rather provide a simple manner with reduced number of steps so as to protect devices in high voltage integrated circuits.

The remaining Limitations of claim 1 are :

a second active semiconductor electronic device located over a third region of said insulating substrate, said third region being substantially separated from said first region by said second region ( Miles col. 1 lines 18-19) ; and a dissipative conductor overlaying and adjacent to said doped semiconductor absorber ( Miles figure 3 #6 overlying and adjacent 8, Keri figure 3 # 24 over and adjacent 14, 16) ; wherein said semiconductor absorber and dissipative conductor are configured to dissipate electromagnetic radiation having a center frequency within a range of between about 1 gigahertz and about 1,000 gigahertz.

The limitation," wherein said semiconductor absorber and dissipative conductor are configured to dissipate electromagnetic radiation having a center frequency within a range of between about 1 gigahertz and about 1,000 gigahertz. " is taken to be a recitation of mere function or property inherently possessed by things in the prior art .

Further " it is elementary that mere recitation of a newly discovered function or property , inherently possessed by things in the prior ad, does not cause a claim drawn to distinguish over the prior ad. Additionally, where the Patent Office has reason to believe that a functional limitation assed to be critical for establishing novelty in the claimed subject matter may , in fact be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.' In re Swine heart , 169 USPQ 226 ( CCPA 1971). ( see also response to arguments section below).

Further, it is settled law as stated by CAFC in IPXL Holdings LLC V Amazon.com Inc. 77 USPQ2d 1140 at 1145-1146 , " The Board correctly surmised that , as a result of the combination of two separate statutory classes on invention a manufacturer or seller of the claimed apparatus would not know from the claim whether it might also be liable for contributory infringement because a buyer or user of the apparuts later performs the claimed method of using the apparatus . Thus such a claim " is not sufficiently precise to provide competitors with accurate determination of the " metes and bounds" of protection involved and is ambiguous and properly rejected . The rule is well recognized and has been incorporated into the PTO's MPEP 2173.05 ( p) ( II) ( 1999) .

Further it is noted that , assuming arguendo that if Applicants' recite in proper format the apparatus capable of protecting against high frequency electromagnetic radiation and dissipate electromagnetic radiation is described in presently newly applied Hastings patent in col. 9 lines 20-25 ( EMI/ESD protection and claim 9 dissipating electromagnetic radiation).

With respect to claim 3 Miles describes the microelectronic apparatus of claim 1, in which said doped semiconductor absorber fills a trench located in said second region. ( Keri figs. 1-4 # 14, 16 etc., Miles fig. 3 # 8, in trench between trenches 16).

With respect to claim 6 Miles describes the microelectronic apparatus of claim 1, in which said doped semiconductor absorber comprises an n type semiconductor dopant. ( Miles col.3 lines 54-55).

With respect to claim 7 Miles describes the microelectronic apparatus of claim 1, further comprising: a dielectric passivation layer having a first surface overlaying said insulating substrate and having a second surface ( Miles figures 3, 4 #16, Keri figures 18) ; said dielectric passivation layer having a thickness extending between said first and second surfaces ( inherent property of every layer to have a thickness between first and second surfaces) ; said dissipative conductor extending into said dielectric passivation layer. ( Miles figures 3 # 8, Keri figures 14, 16 extending into 18) .

With respect to claim 8 Miles describes the microelectronic apparatus of claim 1, in which the dissipative conductor includes a metal selected from the group consisting of nickel, chromium, palladium, platinum, and alloys thereof. ( Miles ring 6, col. 2 line 44, Keri layer 24, col. 2 lines 50-51).

With respect to claim 9 Miles describes the microelectronic apparatus of claim 1, in which said first and second active semiconductor electronic devices are selected from the group consisting of transistors, circuits, integrated circuits, diodes, and memory cells. ( Miles col.1 line 17-18 CMOS, I/Cs, Keri col. 1lines 6-7 I/Cs, transistors).

With respect to claim 10 Miles describes the microelectronic apparatus of claim 7, in which said dissipative conductor fills a trench located in said dielectric passivation layer.

With respect to claim 11 Miles describes the microelectronic apparatus of claim 7, in which said dissipative conductor extends from said first surface toward said second surface over at least about half of said thickness.

With respect to claim 12 Miles describes the microelectronic apparatus of claim 7, further comprising: metallic test probe contacts located at said second surface, said metallic test probe contacts making electrical connections with 'said active semiconductor electronic device.

With respect to claim 13 Miles describes the micro electronic apparatus of claim 11, in which said dissipative conductor extends from said first surface to said second surface.

With respect to claim 14 Miles describes a method of making a microelectronic apparatus having protection against high frequency electromagnetic radiation, comprising the steps of providing a planar insulating substrate; forming an active semiconductor electronic device located over a first region of said insulating substrate; forming a doped semiconductor absorber located in a second region of said insulating

substrate substantially surrounding said first region; forming a second active semiconductor electronic device located over a third region of said insulating substrate, said third region being substantially separated from said first region by said second region; and forming a dissipative conductor overlaying and adjacent to said doped semiconductor absorber wherein said semiconductor absorber and dissipative conductor are configured to dissipate electromagnetic radiation having a center frequency within a range of between about 1 gigahertz and about 1,000 gigahertz.

With respect to claim 15 Miles describes the method of claim 14, in which said doped semiconductor absorber is formed by the step of implanting dopant ions in a trench located in said second region.

With respect to claim 18 Miles describes the method of claim 14, further comprising the step of: forming a dielectric passivation layer having a first surface overlaying said insulating substrate and having a second surface; said dielectric passivation layer having a thickness extending between said first and second surfaces; said dissipative conductor extending into said dielectric passivation layer.

With respect to claim 19 Miles describes the method of claim 18, in which said dissipative conductor is formed by the steps of: providing a trench located in said dielectric passivation layer; and filling a dissipative conductor into said trench.

With respect to claim 20 Miles describes the method of claim 18, further comprising the step of: forming metallic test probe contacts located at said second surface ( Miles ring 6 col. 2 lines 41-45, Keri layer 24, col.2 lines 50-51), said metallic

test probe contacts making electrical connections with said active semiconductor electronic device. ( Miles figure 3 and Keri fig. 3 col.3 lines 20-25).

With respect to claims 21 and 22 Miles describes the microelectronic apparatus of claim 1, in which the dissipative conductor has a sheet resistance within a range of between about 10 ohms per square and about 500 ohms per square. ( Miles col. 6 and Keri cols. 2-3).

***Response to Arguments***

Applicant's arguments filed on December 01, 2005 have been fully considered but they are not persuasive for the following reasons:

Applicants' first contention that based on Dr. Houtsma's declaration that a guard ring configured to provide static shielding as cited in the prior art would not necessarily dissipate incident electromagnetic radiation in the frequency range of about 1 gigahertz to about 1000 gigahertz, is no persuasive because it is well known in the prior art that a guard ring configured to provide static shielding as cited in the prior art would also dissipate incident electromagnetic radiation in all frequencies including the frequency range of about 1 gigahertz to about 1000 gigahertz. ( e.g. see USP NO. 5,7673,172 col.1 lines 55-60, col. 9 lines 20-25 and claim 9, etc.).

Therefore the combination of Miles and Keri describes all presently recited limitations.

Therefore all of Applicants' arguments are not persuasive .

Art Unit: 2814

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is (571)272-1718. The examiner can normally be reached on 8.00 to 5.00.

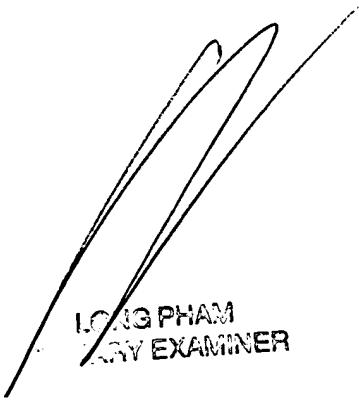
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fahmy Wael can be reached on (571) 272-1714. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Steven H. Rao

Patent Examiner

Feb. 28, 2006.

  
LONG PHAM  
PATENT EXAMINER